

Name \_\_\_\_\_

Date \_\_\_\_\_

Chapter 5 Review Sheet

Thermal Energy and Heat

Define Vocabulary

1. Temperature:
  
2. Thermal Energy:
  
3. Absolute Zero:
  
4. Heat:
  
5. Convection:
  
6. Convection Current:
  
7. Radiation:
  
8. Conduction:
  
9. Conductor:
  
10. Insulator:
  
11. Thermal Expansion:

**Convert the following temperatures:**

12. 63 °C to \_\_\_\_\_ K

13. 49 °C to \_\_\_\_\_ K

14. 9 °C to \_\_\_\_\_ K

15. 670 K to \_\_\_\_\_ °C

16. 273 K to \_\_\_\_\_ °C

17. 500 K to \_\_\_\_\_ °C

18. What is the boiling point of water in Fahrenheit, Celcius and Kelvin?

19. What is the freezing point of water in Fahrenheit, Celcius and Kelvin?

20. What is absolute zero?

**Matching:** Use these definitions to help you with the rest of the worksheet.

\_\_\_\_\_ 21. Radiation

\_\_\_\_\_ 22. convection

\_\_\_\_\_ 23. Conduction

A. Heat transfers when objects are in contact.

B. Heat travels in rays or waves.

C. Heated gas or liquid particles expand and rise.

**Label each example with the appropriate type of heat transfer: radiation, convection, or conduction.**

24. \_\_\_\_\_ Heat we feel from the sun.

25. \_\_\_\_\_ The heat you feel when you touch a hot stove.

26. \_\_\_\_\_ Heat you feel when you put your hands above a fire.

27. \_\_\_\_\_ This is responsible for making macaroni rise and fall in a pot on the stove.

28. \_\_\_\_\_ The heat a snake feels from the heat lamp above him.

29. \_\_\_\_\_ Transfer of heat by the actual movement of the warmed matter (gas or liquid).

30. \_\_\_\_\_ The reason heating vents are usually placed on the floor of a home.

31. \_\_\_\_\_ Why you use a pot holder when getting the cookie sheet out of the oven.

32. \_\_\_\_\_ Heat you feel when you sit next to a campfire.

**Sorting:** place each item below into the appropriate box.

Word Box: Styrofoam      Paper      Metal      Aluminum      Brass      Plastic  
Copper      Cotton      Wool      Bubble Wrap      Fabric

Conductors	Insulators

Specific Heat: Use the chart below to answer the following questions.

33. Which material would be easiest to heat up and cool down? Why?

34. Which material would be hardest to heat up and cool down? Why?

MATERIAL	SPECIFIC HEAT (Joules/gram • °C)
Liquid water	4.18
Solid water (ice)	2.11
Water vapor	2.00
Dry air	1.01
Basalt	0.84
Granite	0.79
Iron	0.45
Copper	0.38
Lead	0.13

